

IN THE CLAIMS:

Please substitute the following claims for the same-numbered claims in the application:

Claims 1-13 (canceled).

Claim 14 (Currently Amended): A method for determining a manner of classifying a data sample in one of a number of predetermined classes, said method comprising:

computing a weight value for each of a plurality of classifiers; associating data classifiers in a decision fusion application comprising said data sample, wherein said classifiers indicate a manner of classifying a said sample in said one of a number of predetermined classes;

computing a weight value for each of a plurality of classifiers;

calculating for each of said predetermined classes a weighted summation across said classifiers of a likelihood that the sample belongs to a particular class, weighted by said weight value; and

designating said sample as belonging to said particular class for which said weighted summation is greatest in value[.];

assigning accuracy confidence values for each classifier in said decision fusion application based on said greatest value; and

improving a classification accuracy of said decision fusion application based on said accuracy confidence values.

Claim 15 (Original): The method of claim 14, wherein said weight value for a classifier comprises a sample confidence component, wherein said sample confidence component includes a linear combination of an order statistic.

Claim 16 (Original): The method of claim 15, wherein said linear combination is defined by a log-likelihood of respective predetermined classes for classifiers corresponding to said sample.

Claim 17 (Original): The method of claim 15, wherein said linear combination for a particular sample comprises a difference between a most likely and a second most likely class associated with a particular classifier.

Claim 18 (Original): The method of claim 16, wherein the weight value comprises said sample confidence component equaling said log-likelihood of respective predetermined classes for classifiers corresponding to said sample; and a cumulative component comprising a mean of said sample confidence component over a plurality of samples.

Claim 19 (Original): The method of claim 18, wherein said cumulative component is successively updated with said sample confidence component of each said sample.

Claim 20 (Currently Amended): A program storage device readable by computer, tangibly embodying a program of instructions executable by said computer to perform a method for determining a manner of classifying a data sample in one of a number of predetermined classes,

said method comprising:

computing a weight value for each of a plurality of classifiers, associating data classifiers in a decision fusion application comprising said data sample, wherein said classifiers indicate a manner of classifying a said sample in said one of a number of predetermined classes;

computing a weight value for each of a plurality of classifiers;
calculating for each of said predetermined classes a weighted summation across said classifiers of a likelihood that the sample belongs to a particular class, weighted by said weight value; and

designating said sample as belonging to said particular class for which said weighted summation is greatest in value[.];

assigning accuracy confidence values for each classifier in said decision fusion application based on said greatest value; and

improving a classification accuracy of said decision fusion application based on said accuracy confidence values.

Claim 21 (Original): The program storage device of claim 20, wherein said weight value for a classifier comprises a sample confidence component, wherein said sample confidence component includes a linear combination of an order statistic.

Claim 22 (Original): The program storage device of claim 21, wherein said linear combination is defined by a log-likelihood of respective predetermined classes for classifiers corresponding to said sample.

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Claim 23 (Original): The program storage device of claim 21, wherein said linear combination for a particular sample comprises a difference between a most likely and a second most likely class associated with a particular classifier.

Claim 24 (Original): The program storage device of claim 22, wherein the weight value comprises said sample confidence component equaling said log-likelihood of respective predetermined classes for classifiers corresponding to said sample; and a cumulative component comprising a mean of said sample confidence component over a plurality of samples.

Claim 25 (Original): The program storage device of claim 24, wherein said cumulative component is successively updated with said sample confidence component of each said sample.

Claim 26 (Currently Amended): An apparatus for determining a manner of classifying a data sample in one of a number of predetermined classes, said apparatus comprising:

~~means for computing a weight value for each of a plurality of classifiers, wherein said classifiers indicate a manner of classifying a sample in one of a number of predetermined classes;~~

~~means for calculating for each of said predetermined classes a weighted summation across said classifiers of a likelihood that the sample belongs to a particular class, weighted by said weight value; and~~

~~means for designating said sample as belonging to said class for which said weighted summation is greatest in value.~~

means for associating data classifiers in a decision fusion application comprising said data sample, wherein said classifiers indicate a manner of classifying said sample in said one of a number of predetermined classes;

means for computing a weight value for each of a plurality of classifiers;

means for calculating for each of said predetermined classes a weighted summation across said classifiers of a likelihood that the sample belongs to a particular class, weighted by said weight value;

means for designating said sample as belonging to said particular class for which said weighted summation is greatest in value;

means for assigning accuracy confidence values for each classifier in said decision fusion application based on said greatest value; and

means for improving a classification accuracy of said decision fusion application based on said accuracy confidence values.

Please add the following claims:

Claim 27 (New): The method of claim 14, wherein said classifiers comprise audio and video classifiers, and wherein said decision fusion application comprises an audiovisual speech recognition application.

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Claim 28 (New): The method of claim 14, wherein said weighted summation comprises an overall confidence component across said predetermined classes.

Claim 29 (New): The method of claim 28, further comprising determining a relative confidence level relating to an accuracy of said classifiers for each sample in said decision fusion application based on said sample confidence component and said overall confidence component.

Claim 30 (New): The program storage device of claim 20, wherein said classifiers comprise audio and video classifiers, and wherein said decision fusion application comprises an audiovisual speech recognition application.

Claim 31 (New): The program storage device of claim 20, wherein said weighted summation comprises an overall confidence component across said predetermined classes.

Claim 32 (New): The method of claim 31, further comprising determining a relative confidence level relating to an accuracy of said classifiers for each sample in said decision fusion application based on said sample confidence component and said overall confidence component.